

WHAT IS CLAIMED IS:

1. A method for avoiding problems associated with protocol translation comprising:

determining information related to converting data from a first
5 protocol to a second protocol; and

modifying a protocol parameter of a first data based on the determined information to thereby avoid problems associated with a second data sent after the first data, wherein problems may result from converting the second data from the first to the second protocol.

10 2. A method as recited in claim 1, wherein the avoided problems are selected from a group consisting of fragmentation of data, dropping of data, and retransmission of data.

3. A method as recited in claim 1, wherein the first protocol is IPv4 and the second protocol is IPv6.

15 4. A method as recited in claim 3, wherein the protocol parameter indicates a limit to a size of the second data and the problems associated with the protocol translation are based on the size of the second data.

5. A method as recited in claim 4, wherein the protocol parameter is related to a buffer size.

20 6. A method as recited in claim 5, wherein the protocol parameter is a window size.

7. A method as recited in claim 4, wherein the protocol parameter is related to a maximum data allowed in transmission.

8. A method as recited in claim 7, wherein the protocol parameter is a maximum segment size.

5 9. A method as recited in claim 8, wherein the maximum segment size is advertised by a sending device of the first data and the advertised maximum segment size is modified before it reaches its final destination.

10 10. A method as recited in claim 8, wherein modifying the maximum segment size is accomplished by performing a discovery algorithm to determine a network maximum transmission unit.

11. A method as recited in claim 4, wherein the protocol parameter is decreased based on the determined information and the determined information is an estimated size increase of the second data resulting from converting the second data from the first to the second protocol.

15 12. A method as recited in claim 1, wherein determining the information is accomplished by tracking size changes of data converted from the first to the second protocol.

13. A method as recited in claim 12, wherein determining the information is further accomplished by estimating a sizes change in data resulting from tunneling from the 20 first to the second protocol.

14. A method as recited in claim 1, further comprising converting the first data from the first to the second protocol and the second data from the second to the first protocol.

15. A method as recited in claim 1, wherein converting data from a first protocol to a second protocol is accomplished by performing network address protocol translation (NAT-PT).

16. A method as recited in claim 1, wherein converting data from a first protocol to a second protocol is accomplished by tunneling.

17. A computer system operable to avoid one or more problems associated with protocol translation, the router comprising:

one or more processors;

one or more memory, wherein at least one of the processors and memory are adapted to:

determine information related to converting data from a first protocol to a second protocol; and

modify a protocol parameter of a first data based on the determined information to thereby avoid one or more problems associated with a second data sent after the first data, wherein the problem(s) may result from converting the second data from the first to the second protocol.

18. A computer system as recited in claim 17, wherein the avoided problems are selected from a group consisting of fragmentation of data, dropping of data, and retransmission of data.

19. A computer system as recited in claim 17, wherein the first protocol is IPv4
and the second protocol is IPv6.

20. A computer system as recited in claim 19, wherein the protocol parameter
indicates a limit to a size of the second data and the problems associated with the protocol
translation are based on the size of the second data.
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21. A computer system as recited in claim 20, wherein the protocol parameter is
related to a buffer size.

22. A computer system as recited in claim 21, wherein the protocol parameter is a
window size.

10 23. A computer system as recited in claim 20, wherein the protocol parameter is
related to a maximum data allowed in transmission.

24. A computer system as recited in claim 23, wherein the protocol parameter is a
maximum segment size.

15 25. A computer system as recited in claim 24, wherein the maximum segment
size is advertised by a sending device of the first data and the advertised maximum segment
size is modified before it reaches its final destination.

26. A computer system as recited in claim 20, wherein the protocol parameter is
decreased based on the determined information and the determined information is an
estimated size increase of the second data resulting from converting the second data from the
20 first to the second protocol.

27. A computer system as recited in claim 17, wherein determining the information is accomplished by tracking size changes of data converted from the first to the second protocol.

28. A computer system as recited in claim 17, wherein converting data from a
5 first protocol to a second protocol is accomplished by performing network address protocol translation (NAT-PT).

29. A computer system as recited in claim 17, wherein converting data from a first protocol to a second protocol is accomplished by tunneling.

30. A computer program product for avoiding one or more problems associated
10 with protocol translation, the computer program product comprising:

at least one computer readable medium;
computer program instructions stored within the at least one computer readable product configured to cause a combining device to:

determine information related to converting data from a first protocol to a second
15 protocol; and

modify a protocol parameter of a first data based on the determined information to thereby avoid one or more problems associated with a second data sent after the first data, wherein the problems may result from converting the second data from the first to the second protocol.

20 31. A computer program product as recited in claim 30, wherein the avoided problems are selected from a group consisting of fragmentation of data, dropping of data, and retransmission of data.

32. A computer program product as recited in claim 30, wherein the first protocol is IPv4 and the second protocol is IPv6.

33. A computer program product as recited in claim 32, wherein the protocol parameter indicates a limit to a size of the second data and the problems associated with the
5 protocol translation are based on the size of the second data.

34. A computer program product as recited in claim 33, wherein the protocol parameter is related to a buffer size.

35. A computer program product as recited in claim 34, wherein the protocol parameter is a window size.

10 36. A computer program product as recited in claim 33, wherein the protocol parameter is related to a maximum data allowed in transmission.

37. A computer system as recited in claim 36, wherein the protocol parameter is a maximum segment size.

15 38. A computer program product as recited in claim 37, wherein the maximum segment size is advertised by a sending device of the first data and the advertised maximum segment size is modified before it reaches its final destination.

39. A computer program product as recited in claim 33, wherein the protocol parameter is decreased based on the determined information and the determined information is an estimated size increase of the second data resulting from converting the second data
20 from the first to the second protocol.

40. A computer program product as recited in claim 30, wherein determining the information is accomplished by tracking size changes of data converted from the first to the second protocol.

41. A computer program product as recited in claim 30, wherein converting data from a first protocol to a second protocol is accomplished by performing network address protocol translation (NAT-PT).

42. An apparatus for avoiding one or more problems associated with protocol translation, the apparatus comprising:

means for determining information related to converting data from a first protocol to a second protocol; and

means for modifying a protocol parameter of a first data based on the determined information to thereby avoid one or more problems of a second data sent after the first data, wherein the problems may result from converting the second data from the first to the second protocol.

43. An apparatus as recited in claim 42, wherein the avoided problems are selected from a group consisting of fragmentation of data, dropping of data, and retransmission of data.

44. An apparatus as recited in claim 42, wherein the first protocol is IPv4 and the second protocol is IPv6.

45. An apparatus as recited in claim 44, wherein the protocol parameter indicates a limit to a size of the second data and the problems associated with the protocol translation are based on the size of the second data.